

Water Users Associations

An Overview of USAID Activities in Central Asia



Development Challenge

In the semi-arid Central Asian countries, irrigation is essential to increasing agricultural production and improving rural livelihoods. Water is delivered to farm units through an extensive network of canals. Since the Central Asian countries gained independence, reduced budgets for canal operation and maintenance and breakdowns in local institutional structures that managed farming and irrigation during the Soviet era have resulted in significant deterioration in irrigation systems throughout the region. Currently, poor water management leads to water losses, water logging of farm fields, soil salinity, and decreasing crop yields. Limited water supplies and strong competition for available water among users can and does lead to conflict over this valuable resource. Some former state farms and cooperatives are now being reorganized into an agricultural system in which individual farmers must irrigate and farm their own fields without the support provided by previous institutional structures. Viable institutions must be created to improve water management and mitigate rising conflicts at the farm level. A new organizational structure that can better represent farmers is important, one that reinforces democratic behavior and the open participation of the water users in decision-making.

USAID's Response

Improper management of water and energy in Central Asia has resulted in waste of these limited resources and the potential for conflict among users of them. USAID's water activities bring people together to solve common water problems and give people the tools they need to resolve issues and better manage resources.

The Central Asian governments and their international partners agree that Water Users Associations (WUAs) are the cornerstone for a revival of irrigated agriculture in the region. WUAs manage and operate the irrigation and drainage network within a certain territory to optimize use of available water resources and help farmers raise their standard of living. With USAID assistance, WUAs are now being established to allow farmers to participate in managing water and to ensure that water is distributed equitably and used productively. USAID is contributing to the development of WUAs by:

- Helping to establish and strengthen democratic user-level organizations,
- Improving the capacity of water users to manage canal water deliveries, and
- Improving water use efficiency at the farm unit level.

USAID is assisting the development of seven WUAs (6 in Uzbekistan and 1 Tajikistan) along with two independent on-farm demonstration sites. At each of these pilot sites will ensure better use of water to increase crop yields, improve transparency and equality in water distribution among individual farmers, and increase efficiency in water use for irrigated agriculture. USAID also assists with policy initiatives, such as the development of a model charter and by-laws, to ensure sustainability of the WUAs.

Establishing Democratic WUAs: USAID supports innovative demonstrations at several pilot farms throughout the irrigated zones to provide examples of better management of irrigated farming. These include improved water measurement and management techniques, use of new control structure designs in the distribution system, simplified methods for measuring soil moisture content, more productive land preparation techniques, and better farm-level irrigation techniques. The overall objective is greater economic benefit to farmers (and thus also the state) through well-organized and transparent irrigation management. The change from a centrally imposed organization to a self-managed independent organization requires a new organizational structure with a strong charter operating on democratic principles. USAID has assisted in the democratic election of the WUAs'

governing bodies and is training farmers in representative decision-making and transparency in managerial, financial, and water distribution operations.

Better Water Distribution (Canal Management): The existing water distribution schemes of the USAID-supported pilot sites were selected because they represent a variety of circumstances common in the region. In Soviet irrigation schemes, there were few structures to stabilize water levels, resulting in an inability to control flow and assure reliable deliveries at the farm level. To address this problem, USAID is working through the WUAs to introduce new management concepts, as well as new structural designs, to improve canal regulation and water flow. Canal improvements generally involve rehabilitating gates or installing new water control structures, providing automatic proportional water dividers, and installing water flow measuring structures. Inefficiencies arise when on-farm water flows are not measured properly. At each pilot site, USAID is installing proper flow measuring devices and has designed new, more simple and cheaper measuring structures that are more accurate than those currently in use. This is generating considerable interest in widely replicating such structures. Automatic flow measurement is also being introduced, together with computerized systems of recording and reporting to the farmers in an accurate and transparent way.

Improvements to On-Farm Irrigation: Past irrational water scheduling techniques (timing of water deliveries) are all too common, as is the inability of many farmers to correctly apply water at the farm level. Both are sources of water use inefficiency. A combination of un-level fields and un-even application in the furrows results in under-irrigating in some parts of the field while others are over-irrigated. Through the WUAs, USAID-funded demonstrations are underway to determine the current extent of inefficient water use at each pilot site, how to level the field to a regular slope, how to apply the correct amount of water to each furrow, and when the crop should be watered. To improve water management on farm fields, USAID is introducing land leveling, siphons to apply measured quantities of water to furrows, and disc plowing to maintain level fields and improve water filtration.

Benefits

Improvements to on-farm water management are being demonstrated at 11 sites, covering an area of over 20,000 hectares with a population of over 40,000 beneficiaries. Direct water savings of 25–30% are expected. This water can then be used for other purposes, including the expansion of irrigated areas. In addition, it is estimated that cotton yields in the pilot sites will increase, further demonstrating the beneficial impacts of improved water management. Other crop yields (wheat, fruits and vegetables) will also increase. The total estimated economic benefit is \$3 million per year for the pilot sites. It is hoped that lessons from USAID's demonstrations will be widely adopted throughout the region, creating additional economic and financial benefits. These improvements increase farm-level incomes and enhance the ability of water users to cover canal operation and maintenance costs through the fees assessed by their user associations.

By demonstrating democratic principles for managing WUAs, participating in WUA decisions and informing members about their rights in WUA elections, USAID also supports good governance. The governing bodies for some WUAs were elected through open and fair elections. Acquainting WUA members with democratic procedures, increasing awareness that water has an economic value, and helping farmers learn to defend their rights are important benefits. Other important social benefits include equal and fair water distribution and the prevention of conflict among local level water users.

Contact Information

http://www.usaid.gov/regions/europe_eurasia/car/index.html

Mission Director: George Deikun
Deputy Mission Director: Mike Fritz
Phone: 011-7-3272-50-76-12

USAID/Central Asia Region
41 Kazibek Bi St. B Wing
Almaty, Kazakhstan 480100

Central Asia Desk Officers: Tim Alexander
& Claire Ehmann
Phone: 202-712-1669
